

October 13, 2005
Case No.: NL020017 (7790/430)
Serial No.: 10/501,165
Filed: July 12, 2004
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SPECIFICATION AMENDMENTS

Please amend the TITLE as follows:

"High-pressure discharge lamp having an improved fusion joint"

Please amend the paragraph beginning at page 2, line 9 as follows:

"In a further advantageous embodiment of the lamp according to the invention, the fusion joint comprises a material selected from the group formed by Al_8Mo_3 , $\text{Al}_{63}\text{Mo}_{37}$, ~~$\text{Al}_{63}\text{Mo}_{37}$~~ , AlMo , AlMo_3 and combinations of said materials. Al_8Mo_3 and $\text{Al}_{63}\text{Mo}_{37}$ from this group have the lowest melting temperatures, i.e. in the range from approximately 1570–1580°C. The melting temperature of the other alloys are above 1700°C. The preferred alloys are stable with regard to pressure and chemical attack by the lamp filling during operation of the discharge lamp."

Please amend the paragraph beginning at page 3, line 16 as follows:

"The discharge vessel 10 is surrounded by an outer envelope 12 which is provided with a lamp cap 13 at one end. In the operational state of the lamp, a discharge extends between the electrodes. One of the electrodes 3 is connected to a first electrical contact point forming part of the lamp cap 13 via a current conductor 18 ~~8~~. Similarly, the other electrode is connected to a second electrical contact point of the lamp cap 13 via a current conductor 19."

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Please amend the paragraph beginning at page 4, line 7 as follows:

"According to the invention, the ceramic wall 1 and the plug 2 are jointed by a fusion joint 4. The fusion joint 4 comprises an alloy comprising substantially molybdenum and aluminum. The fusion joint 4 preferably comprises 25–80 atom percent molybdenum, the remainder comprising substantially aluminum. Preferably, the fusion joint 4 comprises a material selected from the group formed by Al_8Mo_3 , $\text{Al}_{63}\text{Mo}_{37}$, ~~$\text{Al}_{63}\text{Mo}_{37}$~~ , AlMo , AlMo_3 and combinations of said materials. Al_8Mo_3 and $\text{Al}_{63}\text{Mo}_{37}$ from this group have the lowest melting temperatures. The melting temperature of Al_8Mo_3 is approximately 1577°C . The melting temperature of $\text{Al}_{63}\text{Mo}_{37}$ is approximately 1570°C . The melting temperatures of the other alloys are approximately 1757°C for AlMo and approximately 2150°C ($\pm 100^\circ\text{C}$) for AlMo_3 . In preparing the fusion joint, rings of the selected composition of the two aluminum and molybdenum metal powders were made which fitted around the plug. After applying these rings over the plugs, the plugs were inserted into a high-frequency coil and heated until the rings melted. During manufacturing of the discharge vessel, plugs provided with the so-obtained rings were inserted into green ceramic tubes and during sintering at approximately 1830°C the ceramic wall shrank around the plugs and the fusion joint created a leak proof connection. Sintering was carried out in a N_2/H_2 atmosphere."

Please amend the paragraph beginning at page 4, line 23 as follows:

"In a practical embodiment of the lamp, the discharge vessel ~~+~~ 10 contains a filling consisting of 0.6 mg of Hg, 1.5 mg of iodides of Na, and Ta, for instance a filling of 2.2 mg of NaI (88%) and TaI (12%), and Ar with a filling pressure of 50 mbar. In a practical realization of the discharge lamp described, the lamp has a power rating of 150 W."

Please amend the Abstract as attached hereto.